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08/370,827 01/10/95 SOKOLOV

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EXAMINER
CHURCH, C

B5M1/0427

ART UNIT PAPER NUMBER

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22
2506

DATE MAILED: 04/27/95

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined ☐ Responsive to communication filed on _____ ☐ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), _____ day(s) from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- ☒ Notice of References Cited by Examiner, PTO-892.
- ☐ Notice of Draftsman's Patent Drawing Review, PTO-948.
- ☐ Notice of Art Cited by Applicant, PTO-1449.
- ☐ Notice of Informal Patent Application, PTO-152.
- ☐ Information on How to Effect Drawing Changes, PTO-1474.
- ☐ _____

Part II SUMMARY OF ACTION

- ☒ Claims 19-24, 26, 27 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
- ☒ Claims 1-18, 25, 28 have been cancelled.
- ☐ Claims _____ are allowed.
- ☒ Claims 19-24, 26, 27 are rejected.
- ☐ Claims _____ are objected to.
- ☐ Claims _____ are subject to restriction or election requirement.
- ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
- ☐ Formal drawings are required in response to this Office action.
- ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).
- ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
- ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
- ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. _____; filed on _____.
- ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
- ☐ Other

EXAMINER'S ACTION

Claims 24 and 26 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The symbols "(tg)" in claims 24 and 26 are undefined.

The following is a quotation of the first paragraph of 35 U.S.C. § 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to provide support in the original disclosure for the invention as it is now claimed. The description of angles added to line 12 of page 7 of the specification and to claims 24 and 26 allege to define Mattsson angles, but the Mattsson reference defines the partition angles with respect to the direction of motion of the grid and not with respect to the side of the grid as in these amendments. Further, there is no teaching in the original disclosure that the radiation absorbing layer is one piece.

Claims 21, 24, 26 and their dependents are rejected under 35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification.

The following is a quotation of the appropriate paragraphs of

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35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

Claims 19-21 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103 as obvious over Albert. See lines 13-51 of column 3 and lines 32 of column 14 to 57 of column 15. While Albert does not explicitly state that the sides of the throughholes are plated, he does explain that common printed circuit board plating techniques are employed, and it is inherent that such techniques plate through the holes. Alternatively It would have been obvious to one of ordinary

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skill in the art at the time the invention was made to plate the sides of the holes as the grid would not effectively reduce x-ray scatter otherwise.

Claims 22 and 23 are rejected under 35 U.S.C. § 103 as being unpatentable over Albert in view of Millenaar. Albert fails to teach the use of cover plates on the end faces of his grid, but this is a common practice as shown by Millenaar, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the Albert grid with such covers to protect it. Furthermore the use of evacuated holes would have been obvious to reduce x-ray absorption.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Claim 24 is rejected under 35 U.S.C. § 103 as being unpatentable over Alnert in view of Caldwell and Mattsson cited by applicant. Caldwell teaches a reciprocating antiscatter grid comprising a frame 28 and cells formed by x-ray opaque partitions 29 which are angled with respect to the sides of the grid and direction of motion so as to eliminate shadows of the partitions in the final image. See lines 27-35 of page 2 and 103-108 of page 3. It would have been obvious to one of ordinary skill in the art at the time the invention was made to fabricate the Albert grid with angled partitions as in Caldwell and to employ as the angles those taught by Mattsson in order to maximize performance as explained by Mattsson.

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Claims 26 and 27 are rejected under 35 U.S.C. § 103 as being unpatentable over Caldwell in view of Mattsson. Caldwell teaches a reciprocating antiscatter grid comprising a frame 28 and cells formed by x-ray opaque partitions 29 which are angled with respect to the sides of the grid and direction of motion so as to eliminate shadows of the partitions in the final image. See lines 27-35 of page 2 and 103-108 of page 3. It would have been obvious to one of ordinary skill in the art at the time the invention was made to employ as the angles those taught by Mattsson in order to maximize performance as explained by Mattsson.

Applicant's arguments filed January 10, 1995 have been fully considered but they are not deemed to be persuasive. The objection to the new matter contained in the insert added to line 12 of page 7 may be overcome by defining the angle α therein with respect to the direction of motion (which, in fact, is Mattsson's definition) rather than with respect to the side of the grid and by replacing the symbol α in claims 24 and 26 with some other symbol to distinguish these angles from Mattsson angles.

It is noted that the printed circuit board techniques referred to by Albert commonly utilize fiberglass substrates that have been rendered photosensitive, and lines 52-57 of column 15 explain that the grid may be plated after the etching process which forms the throughholes or cells.

Any inquiry concerning this communication should be directed to Examiner Church at telephone number (703) 308-4861.

Craig E Church

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GROUP 2500